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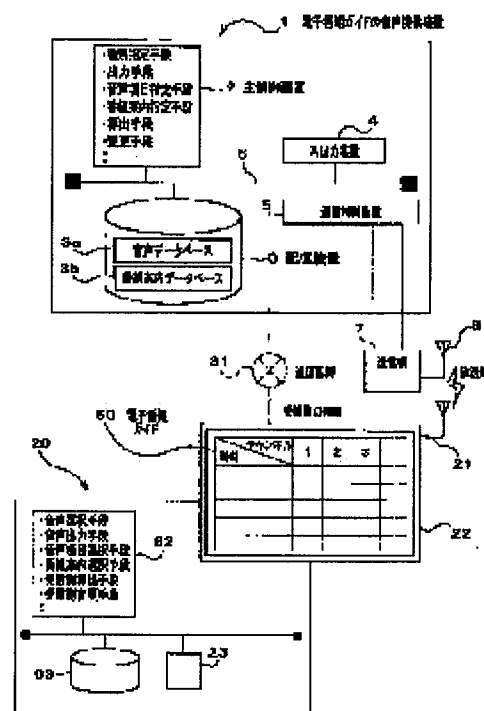
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(54) AUDIO PROVIDING DEVICE FOR ELECTRONIC PROGRAM GUIDE AND ITS AUDIO RECEIVER

(57)Abstract:

PROBLEM TO BE SOLVED: To provide an audio providing device for electronic program guide and its audio receiver that can respond to a high desire of viewers, select audio among a plurality of audio data, specify an audio area and give guidance to the viewer as to contents of a program.

SOLUTION: This invention provides the audio providing device 1 for an electronic program guide that provides the electronic program guide displayed on a receiver side screen in audio, is provided with a storage means 3 that stores audio data generated based on a plurality of audio data as to each item of the electronic program guide, a category designation means that designates a category of the audio data in the storage means for transmission of the data to the receiver side, and an output means that transmits the audio data designated by the category designation means to the receiver side.



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CLAIMS

[Claim(s)]

[Claim 1] A storage means to be voice offer equipment of the electronic program guide which offers with voice the electronic program guide displayed on the screen of a receiving side, and to memorize the voice data created based on two or more sorts of voice about each item in said electronic program guide, Voice offer equipment of the electronic program guide characterized by having a classification assignment means to specify in order to send the voice data of said storage means to a receiving side, and an output means for transmitting the voice data specified by said classification assignment means to a receiving side.

[Claim 2] Voice offer equipment of the electronic program guide according to claim 1 characterized by having a voice item assignment means to grasp which item of said electronic program guide is specified with said voice data.

[Claim 3] It is voice offer equipment of the electronic program guide according to claim 1 or 2 which said voice data is equipped with the voice sample to each voice, and is characterized by equipping said classification assignment means with a sample assignment means to specify in order to send said voice sample to a receiving side.

[Claim 4] Voice offer equipment of an electronic program guide given in any 1 term of claim 1 characterized by having a calculation means to compute the operating frequency in the receiving side of each voice in said voice data, and a modification means for changing said voice data with new voice data corresponding to the operating frequency computed by this calculation means thru/or claim 3.

[Claim 5] Voice offer equipment of an electronic program guide given in any 1 term of claim 1 to claim 4 characterized by having program advice data which carry out program advice about the program of said electronic program guide to said storage means, and having a program advice assignment means to specify in order to send said program advice data to a receiving side.

[Claim 6] The voice of said voice data is voice offer equipment of an electronic program guide given in any 1 term of claim 1 characterized by being the voice of the utterance person beyond pronunciation, utterance, intonation, and the criteria beforehand set up in one or more training to **** thru/or claim 5.

[Claim 7] It is voice offer equipment of an electronic program guide to any 1 term of claim 3 to claim 6 characterized by transmitting the voice data about each item of said electronic program guide chosen based on said voice sample to a receiving side through a communication line with said output means while transmitting said voice sample to a receiving side with said voice output means beforehand.

[Claim 8] It is the voice receiving set of the electronic program guide which reads with voice the electronic program guide transmitted from a transmitting side. A receiving-side storage means to receive and memorize the voice data created based on two or more sorts of voice about each item in an electronic program guide from a transmitting side, The voice selection means for choosing the voice of this reception storage means, and the voice item selection means for choosing the voice data chosen by this voice selection means according to the item of said electronic program guide, The voice receiving set of the electronic program guide characterized by having a voice output means for outputting the voice of the voice data chosen by this item selection means and said voice selection means, and a receiving-side calculation means to compute the operating frequency of each voice in said voice data.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] On the terminal screen of a receiving side like a viewer's television, as this invention can choose voice, it relates to the voice offer equipment and its voice receiving set of the electronic program guide to which it can show an electronic program guide with the selected voice.

[0002]

[Description of the Prior Art] many [be / by digital broadcast / from TV broadcast of an analog type / the number of programs / markedly alike generally and]. For this reason, the electronic program guide (it is described as "EPG" Electric Program Guide and henceforth.) showing the broadcast schedule of a program is created, and there is service which turns this EPG to a viewer's TV receiver, and is transmitted.

[0003] changing a channel by choosing each item of the race card which said EPG is constituted so that every genre and every day of the week may be chosen as the screen of TV receiver and the broadcast schedule of a program can be displayed, and is displayed -- moreover, program reservation can be performed now.

[0004] Moreover, what is proposed that it offers EPG with voice is known as indicated by the JP,2000-253326,A official report. The equipment provided with this EPG by voice adds the sound signal coding train which encoded the sound signal according to said program to said coding train which a coding means encodes the electronic program guide information according to a program, and output as a sign train, and said coding means outputted, and is indicated as a sending set of the electronic program guide which has a sound signal coding means output to the exterior of equipment as an output sign train etc.

[0005]

[Problem(s) to be Solved by the Invention] By the way, to perform amelioration as shows below was desired with the equipment which offers conventional EPG with voice. Although it was possible to have performed offer with voice since it set it as the main object that the equipment which offers conventional EPG with voice encoded the sound signal to offer with a coding means, and transmitted it to electronic program guide information and ** at a receiving side and was constituted There could not be no width of face which chooses voice, it was not able to become uniform voice service from choosing voice according to liking of a viewer not being taken into consideration, and the want of a viewer was not able to be met.

[0006] Moreover, since the equipment which offers EPG with voice was not taken into consideration about pinpointing voice offer area free about offer with voice, it was not able to meet the higher want of a viewer.

[0007] Furthermore, since the equipment which offers EPG with voice is what is offered with voice about the publicity advertisement used for a title or its program about the program, it is insufficient of the information which judges of what kind of content it being a program.

[0008] This invention aims at offering the voice offer equipment and its voice receiving set of the electronic program guide which was made in view of such a point, can meet the high want of a viewer, can choose voice from plurality, and can also pinpoint voice area, and can be guided also about the content of the program.

[0009]

[Means for Solving the Problem] This invention was constituted as follows, in order to solve the aforementioned trouble. Namely, it is voice offer equipment of the electronic program guide which offers with voice the electronic program guide displayed on the screen of a receiving side. A storage means to memorize the voice data created based on two or more sorts of voice about each item in said electronic program guide, It considered as the voice offer equipment of an electronic program guide equipped with a classification assignment means to specify in order to send the voice data of said storage means to a receiving side, and the output means for transmitting the voice data specified by said

classification assignment means to a receiving side.

[0010] Thus, by constituting, the voice offer equipment of an electronic program guide specifies the voice data memorized by the storage means with a classification assignment means, and transmits it to a receiving side with an output means. Therefore, about the electronic program guide displayed on a screen by the receiving side, it can read with the voice chosen by a viewer's taste within limits sent to the receiving side.

[0011] Moreover, in the voice offer equipment of said electronic program guide, it considered as the configuration equipped with voice item assignment that it grasps which item of said electronic program guide is specified with said voice data. Thus, by being constituted, the item which voice data reads with a voice item assignment means is grasped, and by the receiving side, the voice suitable for liking of a viewer can be chosen and it can read according to each item, such as a program of an electronic program guide, a time zone, or a channel, with the voice at a transmitting side. In addition, the item of an electronic program guide makes a smallest unit the specific program in a specific day, a time zone, and a channel, and means one or more things of the smallest unit here.

[0012] Furthermore, in the voice offer equipment of said electronic program guide, said voice data was equipped with the voice sample to each voice, and said classification assignment means was considered as the configuration equipped with a sample assignment means to specify in order to send said voice sample to a receiving side. Thus, since it can specify with a sample assignment means and can transmit to a receiving side within limits which are combined with voice data and by which the voice sample has been sent to the receiving side by being constituted, the voice sample can be chosen in a receiving side.

[0013] In the voice offer equipment of said electronic program guide, it considered as the configuration equipped with a calculation means to compute the operating frequency in the receiving side of each voice in said voice data, and the modification means for changing said voice data with new voice data corresponding to the operating frequency computed by this calculation means. Thus, by being constituted, the operating frequency of each voice in voice data is computed by the calculation means, and the voice with low operating frequency is changed into new voice by the modification means.

[0014] Furthermore, in the voice offer equipment of said electronic program guide, it considered as the configuration which has program advice data which carry out program advice about the program of said electronic program guide to said storage means, and has a program advice assignment means to specify in order to send said program advice data to a receiving side. Thus, by being constituted, a viewer can choose the voice which was suitable for liking of a viewer for every item of an electronic program guide, and the advice about each program of an electronic program guide can be read with the voice of voice data.

[0015] And in the voice offer equipment of said electronic program guide, in one or more training to pronunciation, utterance, intonation, and ***, the voice of said voice data was constituted so that it might be the voice of the utterance person beyond the criteria set up beforehand. Thus, by being constituted, an electronic program guide can be heard with voice with the voice in the condition of being easy to hear a viewer. In addition, the utterance person beyond the criteria set up beforehand means the announcer of a carrier beam broadcasting station for example, for fixed period training.

[0016] Moreover, the voice offer equipment of said electronic program guide considered voice data about each item of said electronic program guide chosen based on said voice sample as the configuration transmitted to a receiving side through a communication line with said output means while transmitting said voice sample to the receiving side with said voice output means beforehand.

[0017] Thus, by being constituted, using a voice sample with little amount of information, it can make it able to choose of which utterance person voice data is used first, and the storage capacity of a receiving side can be stopped to the minimum that what is necessary is just to transmit the selected utterance person's voice data through a communication line.

[0018] Moreover, it is the voice receiving set of the electronic program guide which reads with voice the electronic program guide transmitted from a transmitting side. A receiving-side storage means to receive and memorize the voice data created based on two or more sorts of voice about each item in an electronic program guide from a transmitting side, The voice selection means for choosing the voice of this reception storage means, and the voice item selection means for choosing the voice data chosen by this voice selection means according to the item of said electronic program guide, It constituted as a voice receiving set of an electronic program guide equipped with the voice output means for outputting the voice of the voice data chosen by this item selection means and said voice selection means, and a receiving-side calculation means to compute the operating frequency of each voice in said voice data.

[0019] Thus, by being constituted, the voice receiving set of an electronic program guide memorizes the transmitted voice data for a storage means, and chooses the voice of voice data with a voice selection means. And it chooses further

which item of an electronic program guide is read out with the selected voice with an item selection means, and outputs with a voice output means (it reads out). In addition, the operating frequency of each selected voice is computed by the receiving-side calculation means, and serves as information for changing voice data.

[0020]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained based on a drawing. The mimetic diagram showing voice offer equipment and its voice receiving set for drawing 1 to read an electronic program guide with voice, the explanatory view in which drawing 2 shows the offer approach of voice data, the block diagram in which drawing 3 shows the configuration of a voice database, the explanatory view in which drawing 4 shows the whole voice offer system typically, the explanatory view in which drawing 5 shows the example of a display of a digital receiver, and drawing 6 are the explanatory views showing the example of a display in the condition that the screen of a digital receiver changed.

[0021] As shown in drawing 1, the voice offer equipment (henceforth voice offer equipment) 1 of an electronic program guide (henceforth EPG) 50. The main control unit 2 which develops a main program, and the storage 3 which accumulates each database, I/O device 4 for performing the input or output of each program, each data, etc., CCE 5 for transmitting the data in a main control unit 2 and a store 3 etc. to a receiving side, etc. connect with a bus (Bus) 6, and it is constituted. Moreover, the voice receiving set (henceforth, digital receiver) 20 of the electronic program guide which receives the transmit information (TV program information, EPG, voice data, etc.) transmitted from voice offer equipment 1 is equipped with a display 22, the BS antenna 21, the loudspeaker 23 as a voice output means, the receiving-side main control unit 62, and the receiving-side storage 63 grade.

[0022] First, the configuration by the side of voice offer equipment 1 is explained. A main control unit 2 consists of MPU (Micro Processing Unit), RAM (Random Access Memory), etc., and is controlling voice offer equipment 1 in generalization. In this main control unit 2, programs, such as a classification assignment means, an output means, a voice item assignment means, a program advice assignment means, a modification means, a calculation means, and a database management means (not shown), have started.

[0023] A store 3 consists of at least one or more, such as a hard disk drive unit, and optical-magnetic disc equipment or a magnetic tape unit. This store 3 has program advice database 3b in which the program advice data which read aloud the program advice for every program indicated to be voice database 3a in which the voice data which read the content of EPG aloud by the utterance person beforehand, and was encoded is accumulated by EPG50 by the utterance person, and were encoded are stored.

[0024] The keyboard, a mouse, a display, etc. are connected to I/O device 4 for outputting and inputting data in a main control unit 2 and store 3 grade through the I/O Port. Moreover, CCE 5 is for consisting of a modem, DSU (Digital Service Unit), etc., and realizing informational transmission to the digital receiver 20 through a transmitter 7.

[0025] In addition, as the transmission approach of voice data, various cases can be considered according to the classification of a file, the file to send out, and a transmission gestalt. Drawing 2 is the explanatory view showing the transmission approach of the voice data. As shown in drawing 2, as a file of voice data, the text file which made text data the phrase by which the voice file is uttered can be considered to be the voice file itself. As what is sent out, in the case of a voice file, if there are many items which EPG50 reads out as all data (a case 1, a case 2, case 3) and voice data if there is little amount of data, and the amount of data increases, only a program name can be considered (a case 4, a case 5, case 6). Moreover, in the case of a text file, since, as for many, the amount of data does not become so much, all data are sent out (a case 7, a case 8, case 9). When transmitting voice data, it encodes by the coding section (not shown) by the transmitting side, it decrypts by the decryption section (not shown) by the receiving side, and voice data is processed.

[0026] A transmitter 7 is for making the transmission means used correspond and sending out while becoming irregular to the data which were optimized by CCE 5 and which are sent out. In addition, it functions here as a transmitter 7 which sends out the broadcast wave for sending to the digital receiver 20. Of course, if a transmission means is the communication line network (for example, communication line 31) of the Internet, corresponding to it, it sends out from voice offer equipment 1.

[0027] Next, the various programs started to the main control unit 2 are explained. It has the function to specify which voice data a classification assignment means sends to a receiving side among the voice data accumulated into voice database 3a of a store 3. For example, when 100 kinds of voice data is accumulated into voice database 3a, it is for specifying 30 kinds of voice data of them. Moreover, this classification assignment means has the function to which predetermined fields, such as the whole, a part, every program, and a date (every etc.), are displayed on some screens of the digital receiver (screen of a receiving side) 20 for which utterance person performs the program of EPG50 with

which voice data.

[0028] In addition, this classification assignment means is equipped also with the function as a sample assignment means to specify each utterance person's (announcer) voice sample accumulated into voice database 3a by the transmitting side. Therefore, the classification assignment means has the function to which the sample selection section 53 for offering a voice sample is displayed on some screens of the digital receiver 20 (refer to drawing 5).

[0029] An output means is a program for outputting the voice data specified by the classification assignment means from storage 3 to a communication controller 5 side. In addition, when making the voice data encoded when a broadcast wave was used for transmission of voice data superimpose on a subcarrier with a transmitter 7, and transmitting and using a communication line 31, voice data was encoded (compression) and it has transmitted to the receiving side.

[0030] A program advice assignment means is a program for specifying the program advice data about each program accumulated into program advice database 3b of a store 3 by the transmitting side. For example, a program advice assignment means is for specifying whether the program advice data for what day of them are transmitted, when the program advice data in program advice database 3b are stored by two week. Moreover, this program advice selection means displays the image about the specified program on some digital receivers 20, and has the function in which contents, such as an outline, can be made to guide visually.

[0031] A database management means is a program which performs the registration and updating of the data to each database, when there are registration of the data to each database and an updating demand of data already registered into each database. For example, when each program of EPG50 is changed, by using each utterance person's voice as voice data, it adds or changes, or the data about program advice are added or changed.

[0032] A voice item assignment means is a program for grasping which item was specified the viewer of a receiving side read out, when using a broadcast wave as a means to transmit EPG50 to a receiving side (in addition, when using it from a transmitting side, being transmitted to a receiving side, by drawing 1 , it becomes a voice item selection means). In addition, this voice item assignment means may be a configuration used from a receiving side, connecting with a transmitting side, when the communication circuit 31 connects with the receiving side. Moreover, the function for setting up also has whether a voice item assignment means makes the voice data chosen with the classification assignment means correspond to which items, such as each program of EPG50 or each channel, the morning, and an afternoon.

[0033] Moreover, a calculation means is a program for recognizing the operating frequency of each voice data from the hysteresis database which carries out a postscript (count). This calculation means grasps the demand of the receiving side transmitted by the communication line 31 with a voice item assignment means, and is computing audio operating frequency using each announcer's use count based on this grasped result, a time, a selection field, etc. In addition, a voice item assignment means grasps the demand from a receiving side, and is memorized by the hysteresis database.

[0034] A modification means is a program for changing voice with low operating frequency into new voice data periodically about the voice data accumulated into voice database 3a recognized that operating frequency is low by the calculation means. Modification by this modification means may be constituted as two steps. In addition, first In the utterance person area 51 (refer to drawing 5) by two or more announcer from what has high operating frequency It changes so that display ranking may become early, and when new voice is added to the announcer's utterance person area 51 and the tolerance of memory is exceeded in it next, you may make it delete from voice with low operating frequency.

[0035] Below, the various databases which a store 3 has are explained. Voice database 3a is classified into each item (field), such as voice data of the announcer who is time amount, a channel, and an utterance person, and sample voice data. Furthermore, the store 3 is equipped with the database (henceforth [it does not illustrate and] a hysteresis database) about the hysteresis of the selected voice in a receiving side. This hysteresis database connects a transaction-data number and the identification number which identifies a receiving side, and is formed. And each item can be fluctuated if needed. Voice data accumulates the voice of a pronunciation, utterance, intonation, and the utterance person beyond the criteria beforehand set up in one or more training to ****, for example, announcer, here.

[0036] And with the criteria set up beforehand, as an example, predetermined training time amount is set up about each item, and an utterance person sets up in the training time amount from the fixed phase about each item, for example, the 1st step, to the 5th step, among those it considers as the case where it is judged that it reached to the 3rd step by the estimator. At this time, the estimator who performs phase assessment may carry out by synthetic judgment of two or more skilled experienced persons. Moreover, it is good on the basis of the time of receiving basic training as announcer currently performed at each broadcasting station, and ending.

[0037] In addition, when an utterance person reads out explanation of each program of EPG50 etc. and it creates voice data, the activity to which it records EPG50 of the part determined that each utterance person already sends out to a receiving side according to an individual, respectively beforehand is done. At this time, the activity which records

sample voice data as one common phrase is also done.

[0038] Moreover, when modification occurs by the content of EPG50 hurriedly, the voice data of "there was program modification" is inputted beforehand, and is created, and each utterance person can be equipped with the voice data inputted first and a convertible voice data creation means.

[0039] Drawing 3 is the explanatory view showing the memory configuration which memorized the voice data of this EPG50. As shown in this drawing 3, EPG50 is classified and memorized in the form of the three-dimension table centering on time amount, a channel, and an utterance person. And the utterance data number of each time amount frame is assigning voice data in this three-dimension table.

[0040] This utterance data number is constituted by the time-of-day-part-ch(channel broadcast)-announcer number (utterance person) broadcast. For example, by one channel (ch), the utterance data number at 6:00- 7:00 is "06-00-01-01", and this number shows that the announcer number of 1ch is "01" in 6:00. In addition, it is equivalent to a classification assignment means to choose this three-dimension table here.

[0041] "good evening, moreover, voice data can also be created using the form of announcer's voice with a speech synthesis means (not shown), for example, they are the *** news 7. I tell the main news on the 1st today. If voice is compounded by creating beforehand the form " and inserting the content of voice of "December 10 and Sunday" in the part of this "****" "good evening, they are the news 7 on Sunday on December 10. I tell the main news on the 1st today. The two sentences " can be made. In this case, what is necessary is to transmit a form beforehand, when transmitting voice data by the communication line 31, and to transmit only announcer's content of voice chosen from voice database 3a, when announcer is chosen.

[0042] In addition, based on the illustration data (not shown) with which the voice data of EPG50 memorized by the store 3 and each utterance person's portrait illustration, or the photograph was accumulated, A announcer who read out EPG50 and EPG50 as shown in above mentioned drawing 5 - E announcer will be displayed on the display 22 of the digital receiver 20. And the sample selection section 53 which shows a "sample" is further displayed on A announcer - E announcer's display position, it is each announcer's voice by clicking this sample selection section 53, for example, voice offer of the one phrase of "hello" is made.

[0043] Moreover, as shown in drawing 1, as program advice data of the voice data with which the information for performing advice about the program of this outline of a program, advice of a program, a genre, the flow to last time, this performer, etc. was beforehand recorded by the utterance person who created voice data so that voice could express, program advice database 3b is classified into each item (field), and is accumulated. Each item can be fluctuated if needed.

[0044] Below, the configuration of the DESHITARU receiver 20 as a receiving side is explained. In addition, here explains with reference to the screen of the display 22 of the digital receiver 20 as a screen of a receiving side. As the digital receiver 20 is shown in drawing 1 and drawing 4, EPG50 voice data is offered by the broadcast wave through the BS antenna 21. This digital receiver 20 is equipped with the memory as a receiving-side storage means 63 which consisted of semi-conductors etc., the display 22, the loudspeaker 23, and the receiving-side main control unit 62 grade.

[0045] Moreover, you may be TV41 for mount carried in the vehicle 40 on which the terminal of a receiving side is not restricted to the digital receiver 20, either, and moves, and the pocket terminal 42 which can do carrying freely. And the digital receiver 20 equips the receiving-side main control unit 62 with a voice selection means, a voice item selection means, the program advice selection means, the receiving-side calculation means, the receiving-side modification means, the voice output means, etc.

[0046] The voice selection means has the function which chooses the voice which suited a viewer's taste from the voice data accumulated in the receiving-side storage means 63. Moreover, this voice selection means has the function to which predetermined fields, such as the whole, a part, every program, and a date (every etc.), are displayed on some displays 22 for which utterance person performs the program of EPG50 with which voice data. In addition, this voice selection means is equipped also with the function as a voice sample selection means to choose each utterance person's (announcer) voice sample accumulated into the reception storage means 63. Therefore, the voice selection means has the function to which the sample selection section 53 for offering a voice sample is displayed on some displays (screen) of the digital receiver 20.

[0047] A voice output means is a program for outputting the voice data chosen by the voice selection means to a loudspeaker 23 from storage 3. Moreover, a program advice selection means is a program for choosing the program advice data about each program accumulated in the receiving-side storage means 63. This program advice selection means displays the image about the selected program on some displays 22, and has the function in which contents, such as an outline, can be made to guide visually.

[0048] A voice item selection means is a program for specifying whether the item (field) of EPG50 throat is read out with each announcer's (utterance person) selected voice. Moreover, the function for setting up also has whether a voice item selection means makes the voice data chosen with the voice selection means correspond to which items, such as each program of EPG50 or each channel, the morning, and an afternoon.

[0049] Moreover, a receiving-side calculation means is a program for recognizing the operating frequency of each voice data accumulated as a database into the receiving-side storage means from activity hysteresis information (count). This receiving-side calculation means is computing audio operating frequency from using each announcer's use count, a time, a selection field, etc. among the historical data entered in activity hysteresis information. In addition, historical data are formed of selected time data, the selected announcer number, etc., as shown in drawing 3.

[0050] A receiving-side modification means is a program for changing voice with low operating frequency into new voice data periodically about the voice data recognized that operating frequency is low by the receiving-side calculation means. In addition, modification by this receiving-side modification means may be constituted as two steps. In the utterance person area 51 (refer to drawing 5) according to two or more announcer to the start from what has high operating frequency It changes so that display ranking may become early, and when new voice is added to the announcer's utterance person area 51 and the tolerance of memory is exceeded in it next, you may make it delete from voice with low operating frequency.

[0051] In addition, if either [at least] the main control unit 2 or the receiving-side main control unit 62 is equipped with each means when the receiving side and the transmitting side are connected by the communication line 31, it is possible to be able to operate each means by the well-known program through a communication line 31, to choose voice data, and to read with voice.

[0052] Below, actuation of voice offer equipment 1 is explained. First, the voice offer equipment 1 of a transmitting side (broadcasting station) Read out one phrase "** not coming" etc. as EPG50 which each announcer who is an utterance person has already determined, and a voice sample, encode voice, and voice data is created. Moreover, program advice data are created by reading out the advice about a program and encoding voice, and the voice data and program advice data are beforehand stored in voice database 3a of a store 3, and program advice database 3b, respectively.

[0053] The broadcast wave sent out from a transmitting side is transmitted with the gestalt of MPEG-TS (Motion Picture Experts Group-Transport Stream), and the voice data of voice offer equipment 1 is superimposed by the data-broadcasting field of this MPEG-TS. That is, in this MPEG-TS, it is the broadcast field which transmits the image and voice data for HDTV (High Definition Television) of a broadcast wave about 90%, about 10% is the broadcast field which transmits the data for data broadcasting, and voice data is superimposed by this data-broadcasting field. In addition, it not only transmits EPG50 and voice data, but it can transmit EPG50 and voice data using the ground antenna 32 or a communication line 31 using a broadcasting satellite 30.

[0054] In this case, while choosing the announcer whose taste of a viewer the viewer of a receiving side suited with the voice selection means, assignment of the time of day to transmit also becomes possible. And when it is in the condition that assignment of time of day is not performed and the power source of the digital receiver 20 is turned on, you may be the configuration of transmitting the voice data for several hours from the time of day which required EPG50. Moreover, when it is in the condition that assignment of the time of day to transmit is performed, you may be the configuration of transmitting the voice data for several hours from the specified time of day. In addition, in the case of a broadcast wave, in connection with the changed rate, even if it is the case where a broadcast field is changed in the future, where each data is assigned appropriately, it will be transmitted.

[0055] Moreover, when using a communication line 31, in order to use a communication line efficiently, the various approaches of sending out each data can be considered. for example, transmit preferentially the data of the time of day possible nearest to current time of day, or When ** (not shown) of the "nature" which is a specific program, for example, the program automatically related by the viewer, is pushed Since it can have selection program historical data which can transmit the data about a natural-related program preferentially, or can learn liking of the viewer with advice by EPG50, and can distinguish a favorite program now It becomes possible to transmit focusing on the favorite program.

[0056] Moreover, if only the voice data of the selected voice is transmitted after the voice which transmits first and reads out only the voice sample which carries out a postscript from EPG50 based on the voice sample is chosen and receiving the result when transmitting voice data to the digital receiver 20 through a communication line 31, it will become possible to make the activity of the memory of the digital receiver 20 into the minimum, or to lessen the data sent by the communication line 31. Moreover, in case voice data and the data of a voice sample are transmitted, it is desirable that they are time zones with few amounts of data transmission, such as midnight or early morning.

[0057] As shown in drawing 1 and drawing 4, what was specified by the classification assignment means (a

communication line 31 is minded from a receiving side, and it is a voice selection means in actuation) is taken out from voice database 3a of a store 3 by the output means, and the voice data of EPG50 etc. is superimposed by the data-broadcasting field of a broadcast wave with EPG50, and is transmitted towards a broadcasting satellite 30 from the antenna 8 of a transmitter 7.

[0058] This broadcast wave is relayed by the broadcasting satellite 30, it is received by the BS antenna 21, and the voice data of EPG50 and EPG50 which were superimposed on the broadcast wave is inputted into the digital receiver 20. And the voice data of EPG50 is classified into announcer, sample data, etc. which are time amount, a channel, and an utterance person, and is automatically memorized by the memory with which the digital receiver 20 was equipped.

[0059] A viewer turns ON the power source of the digital receiver 20 using remote control etc., and further, by operating a predetermined carbon button, as shown in drawing 5, EPG50 is displayed on a screen. And the display which shows the content of the current date of a program guide and time of day, a broadcast schedule, and program broadcast, and the image of the specified program broadcast are displayed on this screen. Moreover, there is the utterance person selection section (not shown) in the upper part of EPG50, and the utterance person selection area 51 is displayed on it by choosing the utterance person selection section with remote control etc.

[0060] A announcer - E announcer and its announcer number are displayed on this utterance person selection area 51 with announcer's portrait. In addition, the utterance person selection area's 51 selection of following **** 52 displays other utterance persons (announcer). Moreover, the sample selection section 53 is displayed next to each announcer's portrait, and voice offer of that announcer's voice sample, for example, the one phrase of "hello", is made by choosing this sample selection section 53.

[0061] Moreover, as shown in drawing 5, in this example of a display, they will be the present date and time of day in 20:00 on Sun., December 10. Here, supposing it chooses BS2 of NHK using remote control etc., on EPG50, the content of the news 8 by which current broadcast is carried out by BS2 of NHK, and its image will be displayed in a small aperture, respectively. In addition, especially the display in a small aperture is good also as a configuration which will not be displayed if it is not necessary to prepare.

[0062] Below, actuation in case voice expresses EPG50 is explained. A viewer operates the carbon button with which remote control etc. was equipped in favorite announcer, moves the cursor on a screen, and can choose now.

[0063] first, from the utterance person area 51, when A announcer is specified, it is specified as A announcer's voice by A announcer being chosen based on the utterance data number of the three-dimension table (refer to drawing 3) memorized by the receiving-side storage means 63 of the digital receiver 20 (step S1 -- not shown), and operating a setup key etc., if the number of utterance persons is one, for example (step S2 -- not shown). In addition, the utterance person of further others is chosen to choose two or more [here] utterance persons, without specifying. In addition, when announcer's voice is unknown, or when voice impersonation is forgotten about announcer's voice, after voice offer of one phrase of the announcer's voice sample, for example, the "hello", is made and hearing the voice sample by choosing the sample selection section 53, it can choose.

[0064] Next, it specifies whether the area of EPG50 throat is read with voice. Here, it sets up whether the voice data chosen with the voice selection means of the receiving-side main control unit 62 is made to correspond to items, such as each program of EPG50 or each channel, the morning, and an afternoon, with a voice item selection means. In addition, the cursor on a screen moves to head location 50T of EPG50, when an utterance person is specified. the area expressed with the voice of EPG50 here -- for example, in the case where he wants to choose the one program, the location of specific program area (for example, 50Aa(s)) is chosen (step 3 -- not shown), and cursor is specified by actuation of a setup key etc. (step 4 -- not shown).

[0065] Moreover, the No. two or more group can be specified by DORAKKU [with cursor] to make advice with A announcer's voice into two or more programs. Furthermore, if it is the specific time amount, 20:00 [for example,], to choose all the channels 50A, 50B, and 50C and 50D-- by the time basis, pinpointing of area can be performed by choosing the time-of-day location 50a. Similarly, it can specify by choosing each channel location, for example, NHK (BS1)50A, to choose all the time-of-day locations 50a and 50b and 50c-- per channel. in addition, when two or more utterance persons are chosen, the specific activity of a field expressed with the manpower chosen in order of registration of the selected utterance person, the count of said, and voice will be done (step S5 -- not shown).

[0066] Furthermore, it becomes possible by performing actuation which chooses whether they are announcer's selection described above before operating a decision carbon button, and the area of EPG50 throat to change modification of the announcer who is an utterance person, the program expressed with voice, a channel, or a time zone. In addition, after choosing specific announcer, you may enable it to carry out by operating a decision carbon button to offer all EPG50 with the same voice. therefore, two or more announcer -- every channel -- or assigning for every time zone also becomes

possible.

[0067] The following voice is read by A announcer as an example which chooses one of the programs and is expressed with voice. *****, "an NHK BIE swan (a broadcasting station, channel), 20:00 "primary primary Singapore pair Japan (extended *****)" (time of day).

[0068] moreover, if the program advice section 55 on a screen is chosen using cursor with remote control to know program advice of each program carried by EPG50 as shown in drawing 5 and drawing 6, the content of the program advice section 55 will become a list 56, and will be displayed (step S6 -- not shown). Therefore, the advice based on the item is offered by voice by choosing each item of the list 56. Offer with the voice of this content of a program can also be set up so that the announcer who can also set up so that the same announcer as program area 50Aa-- of already chosen EPG50 may carry out, and performs program advice with the setting-out screen which is not illustrated may be changed. Furthermore, it is also possible to set up so that offer with the voice of this program advice may always be performed after offer with the voice of a program.

[0069] In addition, by the case where a communication line 31 is used when using a broadcast wave, when transmitting all speech information at once, the memory of a viewer's digital receiver 20 is made to memorize EPG50, and when performing actuation which changes setting out of announcer and selections, it can respond immediately. Moreover, when transmitting the voice sample first and transmitting only the selected voice data using a communication line 31, memory capacity can be used efficiently, and there is also little data to transmit and it ends.

[0070] Furthermore, through a communication line 31, the activity hysteresis information which chose a viewer's voice data memorized by the memory of the digital receiver 20 is read, and the calculation means of a main control unit 2 counts periodically by the operating frequency of which which announcer's voice is chosen (you may be the calculation means of a receiving side). (recognition) In addition, the historical data about each announcer's voice chosen by the digital receiver 20 are memorized by the file to which it is formed in a memory side except the body data (time data (at the time the part display), an announcer number, etc. which are shown by drawing 3) of voice data.

[0071] And the voice of announcer with low operating frequency is changed into the back page (it will be the 5th page if there are 5 pages of pages) of the display screen shown by drawing 5 so that display ranking may become late with the calculation means and modification means of a main control unit 2. Furthermore, progress of fixed periods, such as every other every three-day week two weeks of every, and a month (every other etc.), transmits other new announcer's voice to the receiving-side storage means 63 from a transmitting side.

[0072] And the voice of announcer with low operating frequency is changed by being deleted by the calculation means and modification means of a main control unit 2, when exceeding storage allowance of the memory of the digital receiver 20. Of course, when announcer's voice is changed, the display screen currently displayed is also changed in connection with it. In addition, about the case where only the selected voice data is transmitted by the voice sample through a communication line 31, with the voice in [selected] it, from what has many operating frequency, it is set up so that it may be displayed on the front page of the display screen. Moreover, you may make it transmit within the limits of the storage capacity of memory periodically about new voice data.

[0073] In addition, a calculation means and a modification means can grasp the inclination which chooses a viewer's announcer from the activity hysteresis information, and they can also constitute it so that the voice data of announcer who copes with the inclination may be transmitted. Moreover, actuation accompanying modification of the voice data described above through the receiving-side calculation means etc. may be performed.

[0074] Moreover, as long as it takes out the voice data by the announcer chosen through the communication line 31 from EPG50 voice database 3a with the gestalt of this operation and makes it transmit to the digital receiver 20, you may be the configuration it becomes unnecessary to equip with a receiving-side storage means for EPG50 voice database 3a to become a storage means, and memorize the voice data of EPG50 to the digital receiver 20.

[0075] Furthermore, various applications can be considered about an utterance person's tone, and an utterance person. For example, in the digital receiver 20, it is also possible, to make it low or to give change. [, making it late or making it high] [making an utterance person's voice uniform early with a voice change manual operation button (not shown)]

[0076] Moreover, although service will serve as onerous if it is made to charge when it enables it to choose, not only announcer but the expert of the talk, for example, the voice actor of animation, and this expert is chosen, high quality service can be offered.

[0077] In addition, with the voice offer equipment 1 of EPG50, said voice may be synthesized speech, and the mode of the synthesized speech may create a form when an utterance person speaks beforehand, and you may create by inserting the content of utterance when an utterance person reads out EPG50 in said form. Moreover, said synthesized speech may be an artificial voice created with the analysis parameter showing an audio property. Furthermore, with the voice offer

equipment 1 of EPG50, said artificial voice may voice-ize text by speech synthesis.

[0078]

[Effect of the Invention] Since the voice data specified from a storage means to memorize the voice data of EPG is transmitted to the receiving side through an output means according to the voice offer equipment of an electronic program guide as explained above, The content of the electronic program guide can be known without being able to raise service, since a viewer can guide EPG with the voice chose in the range of the voice data which received an audio classification, and cried with taste in one voice, and seeing a screen at the terminal of a receiving side. Moreover, since EPG can be guided with voice, even if there is difficulty of the kanji, it enables a viewer a fine alphabetic character and to understand the content of the EPG regardless of age or sex etc. again. Furthermore, since a viewer can know the content of the electronic program guide with voice, he can make misconception of the skip in an alphabetic character etc. the minimum.

[0079] Moreover, since according to the voice offer equipment of an electronic program guide an utterance person's voice can be grasped with a voice item assignment means for every items, such as a program exception of an electronic program guide, a time zone exception, and a channel exception, and the voice can express, the utterance person whom a viewer chooses becomes possible [performing offer with voice in the condition of having made liking of the viewer reflecting enough].

[0080] And according to the voice offer equipment of an electronic program guide, the specified voice sample can be transmitted to a receiving side by having a voice sample and this voice sample assignment means. Therefore, when choosing voice by the receiving side and the viewer has recognized voice since the voice sample of each voice was chosen and heard, the voice which reads out EPG can be chosen, the width of face of selection can be expanded and an utterance person can be chosen based on recognition of right voice.

[0081] And since according to the voice offer equipment of an electronic program guide the operating frequency which a viewer chooses can be computed with a calculation means and each voice of voice data can be periodically changed with a modification means, while a viewer expands the width of face which chooses voice, improvement in palatability can be aimed at by giving a viewer a stimulus of new speech information.

[0082] Furthermore, since according to the voice offer equipment of an electronic program guide the program advice data about advice of each program can also be transmitted while transmitting the voice data of an electronic program guide, it can show a viewer to the content of the program carried by the electronic program guide with voice.

[0083] And since voice data is formed with the voice of the utterance person who received training and exceeded fixed criteria according to the voice offer equipment of an electronic program guide, the content of the electronic program guide tends to catch a viewer, and he becomes possible [choosing a viewer's familiar favorite voice, and viewing and listening to an electronic program guide with the voice], when a carrier beam utterance person is announcer about the training. Therefore, the increase of interest over a viewer's program and possibility of aiming at improvement in an audience rating become high.

[0084] Moreover, according to the voice offer equipment of an electronic program guide, the voice sample with little amount of information is transmitted first, and it makes it choose which voice to express an electronic program guide based on the voice sample, becomes possible to make the amount of information transmitted into the minimum, while being able to use the storage means of a receiving side efficiently, since it is the configuration of sending the selected voice data, and is convenient.

[0085] Furthermore, the voice receiving set of an electronic program guide can always choose voice data which suited a viewer's taste from the ability to change the voice data corresponding to the operating frequency of voice data while being able to choose and read the voice data of the electronic program guide which prepares for the transmitting side or is transmitted.

[Translation done.]

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TECHNICAL FIELD

[Field of the Invention] On the terminal screen of a receiving side like a viewer's television, as this invention can choose voice, it relates to the voice offer equipment and its voice receiving set of the electronic program guide to which it can show an electronic program guide with the selected voice.

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PRIOR ART

[Description of the Prior Art] many [be / by digital broadcast / from TV broadcast of an analog type / the number of programs / markedly alike generally and]. For this reason, the electronic program guide (it is described as "EPG" Electric Program Guide and henceforth.) showing the broadcast schedule of a program is created, and there is service which turns this EPG to a viewer's TV receiver, and is transmitted.

[0003] changing a channel by choosing each item of the race card which said EPG is constituted so that every genre and every day of the week may be chosen as the screen of TV receiver and the broadcast schedule of a program can be displayed, and is displayed -- moreover, program reservation can be performed now.

[0004] Moreover, what is proposed that it offers EPG with voice is known as indicated by the JP,2000-253326,A official report. The equipment provided with this EPG by voice adds the sound signal coding train which encoded the sound signal according to said program to said coding train which a coding means encodes the electronic program guide information according to a program, and output as a sign train, and said coding means outputted, and is indicated as a sending set of the electronic program guide which has a sound signal coding means output to the exterior of equipment as an output sign train etc.

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EFFECT OF THE INVENTION

[Effect of the Invention] Since the voice data specified from a storage means to memorize the voice data of EPG is transmitted to the receiving side through an output means according to the voice offer equipment of an electronic program guide as explained above, The content of the electronic program guide can be known without being able to raise service, since a viewer can guide EPG with the voice chose in the range of the voice data which received an audio classification, and cried with taste in one voice, and seeing a screen at the terminal of a receiving side. Moreover, since EPG can be guided with voice, even if there is difficulty of the kanji, it enables a viewer a fine alphabetic character and to understand the content of the EPG regardless of age or sex etc. again. Furthermore, since a viewer can know the content of the electronic program guide with voice, he can make misconception of the skip in an alphabetic character etc. the minimum.

[0079] Moreover, since according to the voice offer equipment of an electronic program guide an utterance person's voice can be grasped with a voice item assignment means for every items, such as a program exception of an electronic program guide, a time zone exception, and a channel exception, and the voice can express, the utterance person whom a viewer chooses becomes possible [performing offer with voice in the condition of having made liking of the viewer reflecting enough].

[0080] And according to the voice offer equipment of an electronic program guide, the specified voice sample can be transmitted to a receiving side by having a voice sample and this voice sample assignment means. Therefore, when choosing voice by the receiving side and the viewer has recognized voice since the voice sample of each voice was chosen and heard, the voice which reads out EPG can be chosen, the width of face of selection can be expanded and an utterance person can be chosen based on recognition of right voice.

[0081] And since according to the voice offer equipment of an electronic program guide the operating frequency which a viewer chooses can be computed with a calculation means and each voice of voice data can be periodically changed with a modification means, while a viewer expands the width of face which chooses voice, improvement in palatability can be aimed at by giving a viewer a stimulus of new speech information.

[0082] Furthermore, since according to the voice offer equipment of an electronic program guide the program advice data about advice of each program can also be transmitted while transmitting the voice data of an electronic program guide, it can show a viewer to the content of the program carried by the electronic program guide with voice.

[0083] And since voice data is formed with the voice of the utterance person who received training and exceeded fixed criteria according to the voice offer equipment of an electronic program guide, the content of the electronic program guide tends to catch a viewer, and he becomes possible [choosing a viewer's familiar favorite voice, and viewing and listening to an electronic program guide with the voice], when a carrier beam utterance person is announcer about the training. Therefore, the increase of interest over a viewer's program and possibility of aiming at improvement in an audience rating become high.

[0084] Moreover, according to the voice offer equipment of an electronic program guide, the voice sample with little amount of information is transmitted first, and it makes it choose which voice to express an electronic program guide based on the voice sample, becomes possible to make the amount of information transmitted into the minimum, while being able to use the storage means of a receiving side efficiently, since it is the configuration of sending the selected voice data, and is convenient.

[0085] Furthermore, the voice receiving set of an electronic program guide can always choose voice data which suited a viewer's taste from the ability to change the voice data corresponding to the operating frequency of voice data while being able to choose and read the voice data of the electronic program guide which prepares for the transmitting side or is transmitted.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] By the way, to perform amelioration as shows below was desired with the equipment which offers conventional EPG with voice. Although it was possible to have performed offer with voice since it set it as the main object that the equipment which offers conventional EPG with voice encoded the sound signal to offer with a coding means, and transmitted it to electronic program guide information and ** at a receiving side and was constituted There could not be no width of face which chooses voice, it was not able to become uniform voice service from choosing voice according to liking of a viewer not being taken into consideration, and the want of a viewer was not able to be met.

[0006] Moreover, since the equipment which offers EPG with voice was not taken into consideration about pinpointing voice offer area free about offer with voice, it was not able to meet the higher want of a viewer.

[0007] Furthermore, since the equipment which offers EPG with voice is what is offered with voice about the publicity advertisement used for a title or its program about the program, it is insufficient of the information which judges of what kind of content it being a program.

[0008] This invention aims at offering the voice offer equipment and its voice receiving set of the electronic program guide which was made in view of such a point, can meet the high want of a viewer, can choose voice from plurality, and can also pinpoint voice area, and can be guided also about the content of the program.

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MEANS

[Means for Solving the Problem] This invention was constituted as follows, in order to solve the aforementioned trouble. Namely, it is voice offer equipment of the electronic program guide which offers with voice the electronic program guide displayed on the screen of a receiving side. A storage means to memorize the voice data created based on two or more sorts of voice about each item in said electronic program guide, It considered as the voice offer equipment of an electronic program guide equipped with a classification assignment means to specify in order to send the voice data of said storage means to a receiving side, and the output means for transmitting the voice data specified by said classification assignment means to a receiving side.

[0010] Thus, by constituting, the voice offer equipment of an electronic program guide specifies the voice data memorized by the storage means with a classification assignment means, and transmits it to a receiving side with an output means. Therefore, about the electronic program guide displayed on a screen by the receiving side, it can read with the voice chosen by a viewer's taste within limits sent to the receiving side.

[0011] Moreover, in the voice offer equipment of said electronic program guide, it considered as the configuration equipped with voice item assignment that it grasps which item of said electronic program guide is specified with said voice data. Thus, by being constituted, the item which voice data reads with a voice item assignment means is grasped, and by the receiving side, the voice suitable for liking of a viewer can be chosen and it can read according to each item, such as a program of an electronic program guide, a time zone, or a channel, with the voice at a transmitting side. In addition, the item of an electronic program guide makes a smallest unit the specific program in a specific day, a time zone, and a channel, and means one or more things of the smallest unit here.

[0012] Furthermore, in the voice offer equipment of said electronic program guide, said voice data was equipped with the voice sample to each voice, and said classification assignment means was considered as the configuration equipped with a sample assignment means to specify in order to send said voice sample to a receiving side. Thus, since it can specify with a sample assignment means and can transmit to a receiving side within limits which are combined with voice data and by which the voice sample has been sent to the receiving side by being constituted, the voice sample can be chosen in a receiving side.

[0013] In the voice offer equipment of said electronic program guide, it considered as the configuration equipped with a calculation means to compute the operating frequency in the receiving side of each voice in said voice data, and the modification means for changing said voice data with new voice data corresponding to the operating frequency computed by this calculation means. Thus, by being constituted, the operating frequency of each voice in voice data is computed by the calculation means, and the voice with low operating frequency is changed into new voice by the modification means.

[0014] Furthermore, in the voice offer equipment of said electronic program guide, it considered as the configuration which has program advice data which carry out program advice about the program of said electronic program guide to said storage means, and has a program advice assignment means to specify in order to send said program advice data to a receiving side. Thus, by being constituted, a viewer can choose the voice which was suitable for liking of a viewer for every item of an electronic program guide, and the advice about each program of an electronic program guide can be read with the voice of voice data.

[0015] And in the voice offer equipment of said electronic program guide, in one or more training to pronunciation, utterance, intonation, and ****, the voice of said voice data was constituted so that it might be the voice of the utterance person beyond the criteria set up beforehand. Thus, by being constituted, an electronic program guide can be heard with voice with the voice in the condition of being easy to hear a viewer. In addition, the utterance person beyond the criteria set up beforehand means the announcer of a carrier beam broadcasting station for example, for fixed period training.

[0016] Moreover, the voice offer equipment of said electronic program guide considered voice data about each item of

said electronic program guide chosen based on said voice sample as the configuration transmitted to a receiving side through a communication line with said output means while transmitting said voice sample to the receiving side with said voice output means beforehand.

[0017] Thus, by being constituted, using a voice sample with little amount of information, it can make it able to choose of which utterance person voice data is used first, and the storage capacity of a receiving side can be stopped to the minimum that what is necessary is just to transmit the selected utterance person's voice data through a communication line.

[0018] Moreover, it is the voice receiving set of the electronic program guide which reads with voice the electronic program guide transmitted from a transmitting side. A receiving-side storage means to receive and memorize the voice data created based on two or more sorts of voice about each item in an electronic program guide from a transmitting side, The voice selection means for choosing the voice of this reception storage means, and the voice item selection means for choosing the voice data chosen by this voice selection means according to the item of said electronic program guide, It constituted as a voice receiving set of an electronic program guide equipped with the voice output means for outputting the voice of the voice data chosen by this item selection means and said voice selection means, and a receiving-side calculation means to compute the operating frequency of each voice in said voice data.

[0019] Thus, by being constituted, the voice receiving set of an electronic program guide memorizes the transmitted voice data for a storage means, and chooses the voice of voice data with a voice selection means. And it chooses further which item of an electronic program guide is read out with the selected voice with an item selection means, and outputs with a voice output means (it reads out). In addition, the operating frequency of each selected voice is computed by the receiving-side calculation means, and serves as information for changing voice data.

[0020]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained based on a drawing. The mimetic diagram showing voice offer equipment and its voice receiving set for drawing 1 to read an electronic program guide with voice, the explanatory view in which drawing 2 shows the offer approach of voice data, the block diagram in which drawing 3 shows the configuration of a voice database, the explanatory view in which drawing 4 shows the whole voice offer system typically, the explanatory view in which drawing 5 shows the example of a display of a digital receiver, and drawing 6 are the explanatory views showing the example of a display in the condition that the screen of a digital receiver changed.

[0021] As shown in drawing 1, the voice offer equipment (henceforth voice offer equipment) 1 of an electronic program guide (henceforth EPG) 50 The main control unit 2 which develops a main program, and the storage 3 which accumulates each database, I/O device 4 for performing the input or output of each program, each data, etc., CCE 5 for transmitting the data in a main control unit 2 and a store 3 etc. to a receiving side, etc. connect with a bus (Bus) 6, and it is constituted. Moreover, the voice receiving set (henceforth, digital receiver) 20 of the electronic program guide which receives the transmit information (TV program information, EPG, voice data, etc.) transmitted from voice offer equipment 1 is equipped with a display 22, the BS antenna 21, the loudspeaker 23 as a voice output means, the receiving-side main control unit 62, and the receiving-side storage 63 grade.

[0022] First, the configuration by the side of voice offer equipment 1 is explained. A main control unit 2 consists of MPU (Micro Processing Unit), RAM (Random Access Memory), etc., and is controlling voice offer equipment 1 in generalization. In this main control unit 2, programs, such as a classification assignment means, an output means, a voice item assignment means, a program advice assignment means, a modification means, a calculation means, and a database management means (not shown), have started.

[0023] A store 3 consists of at least one or more, such as a hard disk drive unit, and optical-magnetic disc equipment or a magnetic tape unit. This store 3 has program advice database 3b in which the program advice data which read aloud the program advice for every program indicated to be voice database 3a in which the voice data which read the content of EPG aloud by the utterance person beforehand, and was encoded is accumulated by EPG50 by the utterance person, and were encoded are stored.

[0024] The keyboard, a mouse, a display, etc. are connected to I/O device 4 for outputting and inputting data in a main control unit 2 and store 3 grade through the I/O Port. Moreover, CCE 5 is for consisting of a modem, DSU (Digital Service Unit), etc., and realizing informational transmission to the digital receiver 20 through a transmitter 7.

[0025] In addition, as the transmission approach of voice data, various cases can be considered according to the classification of a file, the file to send out, and a transmission gestalt. Drawing 2 is the explanatory view showing the transmission approach of the voice data. As shown in drawing 2, as a file of voice data, the text file which made text data the phrase by which the voice file is uttered can be considered to be the voice file itself. As what is sent out, in the

case of a voice file, if there are many items which EPG50 reads out as all data (a case 1, a case 2, case 3) and voice data if there is little amount of data, and the amount of data increases, only a program name can be considered (a case 4, a case 5, case 6). Moreover, in the case of a text file, since, as for many, the amount of data does not become so much, all data are sent out (a case 7, a case 8, case 9). When transmitting voice data, it encodes by the coding section (not shown) by the transmitting side, it decrypts by the decryption section (not shown) by the receiving side, and voice data is processed.

[0026] A transmitter 7 is for making the transmission means used correspond and sending out while becoming irregular to the data which were optimized by CCE 5 and which are sent out. In addition, it functions here as a transmitter 7 which sends out the broadcast wave for sending to the digital receiver 20. Of course, if a transmission means is the communication line network (for example, communication line 31) of the Internet, corresponding to it, it sends out from voice offer equipment 1.

[0027] Next, the various programs started to the main control unit 2 are explained. It has the function to specify which voice data a classification assignment means sends to a receiving side among the voice data accumulated into voice database 3a of a store 3. For example, when 100 kinds of voice data is accumulated into voice database 3a, it is for specifying 30 kinds of voice data of them. Moreover, this classification assignment means has the function to which predetermined fields, such as the whole, a part, every program, and a date (every etc.), are displayed on some screens of the digital receiver (screen of a receiving side) 20 for which utterance person performs the program of EPG50 with which voice data.

[0028] In addition, this classification assignment means is equipped also with the function as a sample assignment means to specify each utterance person's (announcer) voice sample accumulated into voice database 3a by the transmitting side. Therefore, the classification assignment means has the function to which the sample selection section 53 for offering a voice sample is displayed on some screens of the digital receiver 20 (refer to drawing 5).

[0029] An output means is a program for outputting the voice data specified by the classification assignment means from storage 3 to a communication controller 5 side. In addition, when making the voice data encoded when a broadcast wave was used for transmission of voice data superimpose on a subcarrier with a transmitter 7, and transmitting and using a communication line 31, voice data was encoded (compression) and it has transmitted to the receiving side.

[0030] A program advice assignment means is a program for specifying the program advice data about each program accumulated into program advice database 3b of a store 3 by the transmitting side. For example, a program advice assignment means is for specifying whether the program advice data for what day of them are transmitted, when the program advice data in program advice database 3b are stored by two week. Moreover, this program advice selection means displays the image about the specified program on some digital receivers 20, and has the function in which contents, such as an outline, can be made to guide visually.

[0031] A database management means is a program which performs the registration and updating of the data to each database, when there are registration of the data to each database and an updating demand of data already registered into each database. For example, when each program of EPG50 is changed, by using each utterance person's voice as voice data, it adds or changes, or the data about program advice are added or changed.

[0032] A voice item assignment means is a program for grasping which item was specified the viewer of a receiving side read out, when using a broadcast wave as a means to transmit EPG50 to a receiving side (in addition, when using it from a transmitting side, being transmitted to a receiving side, by drawing 1 , it becomes a voice item selection means). In addition, this voice item assignment means may be a configuration used from a receiving side, connecting with a transmitting side, when the communication circuit 31 connects with the receiving side. Moreover, the function for setting up also has whether a voice item assignment means makes the voice data chosen with the classification assignment means correspond to which items, such as each program of EPG50 or each channel, the morning, and an afternoon.

[0033] Moreover, a calculation means is a program for recognizing the operating frequency of each voice data from the hysteresis database which carries out a postscript (count). This calculation means grasps the demand of the receiving side transmitted by the communication line 31 with a voice item assignment means, and is computing audio operating frequency using each announcer's use count based on this grasped result, a time, a selection field, etc. In addition, a voice item assignment means grasps the demand from a receiving side, and is memorized by the hysteresis database.

[0034] A modification means is a program for changing voice with low operating frequency into new voice data periodically about the voice data accumulated into voice database 3a recognized that operating frequency is low by the calculation means. Modification by this modification means may be constituted as two steps. In addition, first In the utterance person area 51 (refer to drawing 5) by two or more announcer from what has high operating frequency It changes so that display ranking may become early, and when new voice is added to the announcer's utterance person area

51 and the tolerance of memory is exceeded in it next, you may make it delete from voice with low operating frequency. [0035] Below, the various databases which a store 3 has are explained. Voice database 3a is classified into each item (field), such as voice data of the announcer who is time amount, a channel, and an utterance person, and sample voice data. Furthermore, the store 3 is equipped with the database (henceforth [it does not illustrate and] a hysteresis database) about the hysteresis of the selected voice in a receiving side. This hysteresis database connects a transaction-data number and the identification number which identifies a receiving side, and is formed. And each item can be fluctuated if needed. Voice data accumulates the voice of a pronunciation, utterance, intonation, and the utterance person beyond the criteria beforehand set up in one or more training to ****, for example, announcer, here.

[0036] And with the criteria set up beforehand, as an example, predetermined training time amount is set up about each item, and an utterance person sets up in the training time amount from the fixed phase about each item, for example, the 1st step, to the 5th step, among those it considers as the case where it is judged that it reached to the 3rd step by the estimator. At this time, the estimator who performs phase assessment may carry out by synthetic judgment of two or more skilled experienced persons. Moreover, it is good on the basis of the time of receiving basic training as announcer currently performed at each broadcasting station, and ending.

[0037] In addition, when an utterance person reads out explanation of each program of EPG50 etc. and it creates voice data, the activity to which it records EPG50 of the part determined that each utterance person already sends out to a receiving side according to an individual, respectively beforehand is done. At this time, the activity which records sample voice data as one common phrase is also done.

[0038] Moreover, when modification occurs by the content of EPG50 hurriedly, the voice data of "there was program modification" is inputted beforehand, and is created, and each utterance person can be equipped with the voice data inputted first and a convertible voice data creation means.

[0039] Drawing 3 is the explanatory view showing the memory configuration which memorized the voice data of this EPG50. As shown in this drawing 3, EPG50 is classified and memorized in the form of the three-dimension table centering on time amount, a channel, and an utterance person. And the utterance data number of each time amount frame is assigning voice data in this three-dimension table.

[0040] This utterance data number is constituted by the time-of-day-part-ch(channel broadcast)-announcer number (utterance person) broadcast. For example, by one channel (ch), the utterance data number at 6:00- 7:00 is "06-00-01-01", and this number shows that the announcer number of 1ch is "01" in 6:00. In addition, it is equivalent to a classification assignment means to choose this three-dimension table here.

[0041] "good evening, moreover, voice data can also be created using the form of announcer's voice with a speech synthesis means (not shown), for example, they are the *** news 7. I tell the main news on the 1st today. If voice is compounded by creating beforehand the form " and inserting the content of voice of "December 10 and Sunday" in the part of this "****" "good evening, they are the news 7 on Sunday on December 10. I tell the main news on the 1st today. The two sentences " can be made. In this case, what is necessary is to transmit a form beforehand, when transmitting voice data by the communication line 31, and to transmit only announcer's content of voice chosen from voice database 3a, when announcer is chosen.

[0042] In addition, based on the illustration data (not shown) with which the voice data of EPG50 memorized by the store 3 and each utterance person's portrait illustration, or the photograph was accumulated, A announcer who read out EPG50 and EPG50 as shown in above mentioned drawing 5 - E announcer will be displayed on the display 22 of the digital receiver 20. And the sample selection section 53 which shows a "sample" is further displayed on A announcer - E announcer's display position, it is each announcer's voice by clicking this sample selection section 53, for example, voice offer of the one phrase of "hello" is made.

[0043] Moreover, as shown in drawing 1, as program advice data of the voice data with which the information for performing advice about the program of this outline of a program, advice of a program, a genre, the flow to last time, this performer, etc. was beforehand recorded by the utterance person who created voice data so that voice could express, program advice database 3b is classified into each item (field), and is accumulated. Each item can be fluctuated if needed.

[0044] Below, the configuration of the DESHITARU receiver 20 as a receiving side is explained. In addition, here explains with reference to the screen of the display 22 of the digital receiver 20 as a screen of a receiving side. As the digital receiver 20 is shown in drawing 1 and drawing 4, EPG50 voice data is offered by the broadcast wave through the BS antenna 21. This digital receiver 20 is equipped with the memory as a receiving-side storage means 63 which consisted of semi-conductors etc., the display 22, the loudspeaker 23, and the receiving-side main control unit 62 grade.

[0045] Moreover, you may be TV41 for mount carried in the vehicle 40 on which the terminal of a receiving side is not

restricted to the digital receiver 20, either, and moves, and the pocket terminal 42 which can do carrying freely. And the digital receiver 20 equips the receiving-side main control unit 62 with a voice selection means, a voice item selection means, the program advice selection means, the receiving-side calculation means, the receiving-side modification means, the voice output means, etc.

[0046] The voice selection means has the function which chooses the voice which suited a viewer's taste from the voice data accumulated in the receiving-side storage means 63. Moreover, this voice selection means has the function to which predetermined fields, such as the whole, a part, every program, and a date (every etc.), are displayed on some displays 22 for which utterance person performs the program of EPG50 with which voice data. In addition, this voice selection means is equipped also with the function as a voice sample selection means to choose each utterance person's (announcer) voice sample accumulated into the reception storage means 63. Therefore, the voice selection means has the function to which the sample selection section 53 for offering a voice sample is displayed on some displays (screen) of the digital receiver 20.

[0047] A voice output means is a program for outputting the voice data chosen by the voice selection means to a loudspeaker 23 from storage 3. Moreover, a program advice selection means is a program for choosing the program advice data about each program accumulated in the receiving-side storage means 63. This program advice selection means displays the image about the selected program on some displays 22, and has the function in which contents, such as an outline, can be made to guide visually.

[0048] A voice item selection means is a program for specifying whether the item (field) of EPG50 throat is read out with each announcer's (utterance person) selected voice. Moreover, the function for setting up also has whether a voice; item selection means makes the voice data chosen with the voice selection means correspond to which items, such as each program of EPG50 or each channel, the morning, and an afternoon.

[0049] Moreover, a receiving-side calculation means is a program for recognizing the operating frequency of each voice data accumulated as a database into the receiving-side storage means from activity hysteresis information (count). This receiving-side calculation means is computing audio operating frequency from using each announcer's use count, a time, a selection field, etc. among the historical data entered in activity hysteresis information. In addition, historical data are formed of selected time data, the selected announcer number, etc., as shown in drawing 3.

[0050] A receiving-side modification means is a program for changing voice with low operating frequency into new voice data periodically about the voice data recognized that operating frequency is low by the receiving-side calculation means. In addition, modification by this receiving-side modification means may be constituted as two steps. In the utterance person area 51 (refer to drawing 5) according to two or more announcer to the start from what has high operating frequency It changes so that display ranking may become early, and when new voice is added to the announcer's utterance person area 51 and the tolerance of memory is exceeded in it next, you may make it delete from voice with low operating frequency.

[0051] In addition, if either [at least] the main control unit 2 or the receiving-side main control unit 62 is equipped with each means when the receiving side and the transmitting side are connected by the communication line 31, it is possible to be able to operate each means by the well-known program through a communication line 31, to choose voice data, and to read with voice.

[0052] Below, actuation of voice offer equipment 1 is explained. First, the voice offer equipment 1 of a transmitting side (broadcasting station) Read out one phrase "*** not coming" etc. as EPG50 which each announcer who is an utterance person has already determined, and a voice sample, encode voice, and voice data is created. Moreover, program advice data are created by reading out the advice about a program and encoding voice, and the voice data and program advice data are beforehand stored in voice database 3a of a store 3, and program advice database 3b, respectively.

[0053] The broadcast wave sent out from a transmitting side is transmitted with the gestalt of MPEG-TS (Motion Picture Experts Group-Transport Stream), and the voice data of voice offer equipment 1 is superimposed by the data-broadcasting field of this MPEG-TS. That is, in this MPEG-TS, it is the broadcast field which transmits the image and voice data for HDTV (High Definition Television) of a broadcast wave about 90%, about 10% is the broadcast field which transmits the data for data broadcasting, and voice data is superimposed by this data-broadcasting field. In addition, it not only transmits EPG50 and voice data, but it can transmit EPG50 and voice data using the ground antenna 32 or a communication line 31 using a broadcasting satellite 30.

[0054] In this case, while choosing the announcer whose taste of a viewer the viewer of a receiving side suited with the voice selection means, assignment of the time of day to transmit also becomes possible. And when it is in the condition that assignment of time of day is not performed and the power source of the digital receiver 20 is turned on, you may be the configuration of transmitting the voice data for several hours from the time of day which required EPG50. Moreover,

when it is in the condition that assignment of the time of day to transmit is performed, you may be the configuration of transmitting the voice data for several hours from the specified time of day. In addition, in the case of a broadcast wave, in connection with the changed rate, even if it is the case where a broadcast field is changed in the future, where each data is assigned appropriately, it will be transmitted.

[0055] Moreover, when using a communication line 31, in order to use a communication line efficiently, the various approaches of sending out each data can be considered. for example, transmit preferentially the data of the time of day possible nearest to current time of day, or When ** (not shown) of the "nature" which is a specific program, for example, the program automatically related by the viewer, is pushed Since it can have selection program historical data which can transmit the data about a natural-related program preferentially, or can learn liking of the viewer with advice by EPG50, and can distinguish a favorite program now It becomes possible to transmit focusing on the favorite program.

[0056] Moreover, if only the voice data of the selected voice is transmitted after the voice which transmits first and reads out only the voice sample which carries out a postscript from EPG50 based on the voice sample is chosen and receiving the result when transmitting voice data to the digital receiver 20 through a communication line 31, it will become possible to make the activity of the memory of the digital receiver 20 into the minimum, or to lessen the data sent by the communication line 31. Moreover, in case voice data and the data of a voice sample are transmitted, it is desirable that they are time zones with few amounts of data transmission, such as midnight or early morning.

[0057] As shown in drawing 1 and drawing 4 , the voice data of EPG50 etc. is a classification assignment means from voice database 3a of a store 3.

[Translation done.]

* NOTICES *

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- 3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the mimetic diagram showing the voice offer equipment of the electronic program guide concerning this invention.

[Drawing 2] It is the explanatory view showing the offer approach of the voice data concerning this invention.

[Drawing 3] It is the block diagram showing the configuration of the voice database concerning this invention.

[Drawing 4] It is the explanatory view showing typically the whole voice offer system concerning this invention.

[Drawing 5] It is the explanatory view showing the example of a display of the digital receiver concerning this invention.

[Drawing 6] It is the explanatory view showing the example of a display in the condition that the screen of the digital receiver concerning this invention changed.

[Description of Notations]

1 Voice Offer Equipment (Voice Offer Equipment of Electronic Program Guide)

2 Main Control Unit

3 Storage (Storage Means)

3a Voice database

3b Program advice database

4 I/O Device

5 Communication Controller

5 Bus

7 Transmitter

8 Antenna

10 Broadcasting Station

20 Digital Receiver

21 BS Antenna

22 Display

23 Loudspeaker

30 Broadcasting Satellite

50 Electronic Program Guide (EPG)

53 Sample Selection Section

52 Receiving-Side Main Control Unit

53 Receiving-Side Storage

[Translation done.]

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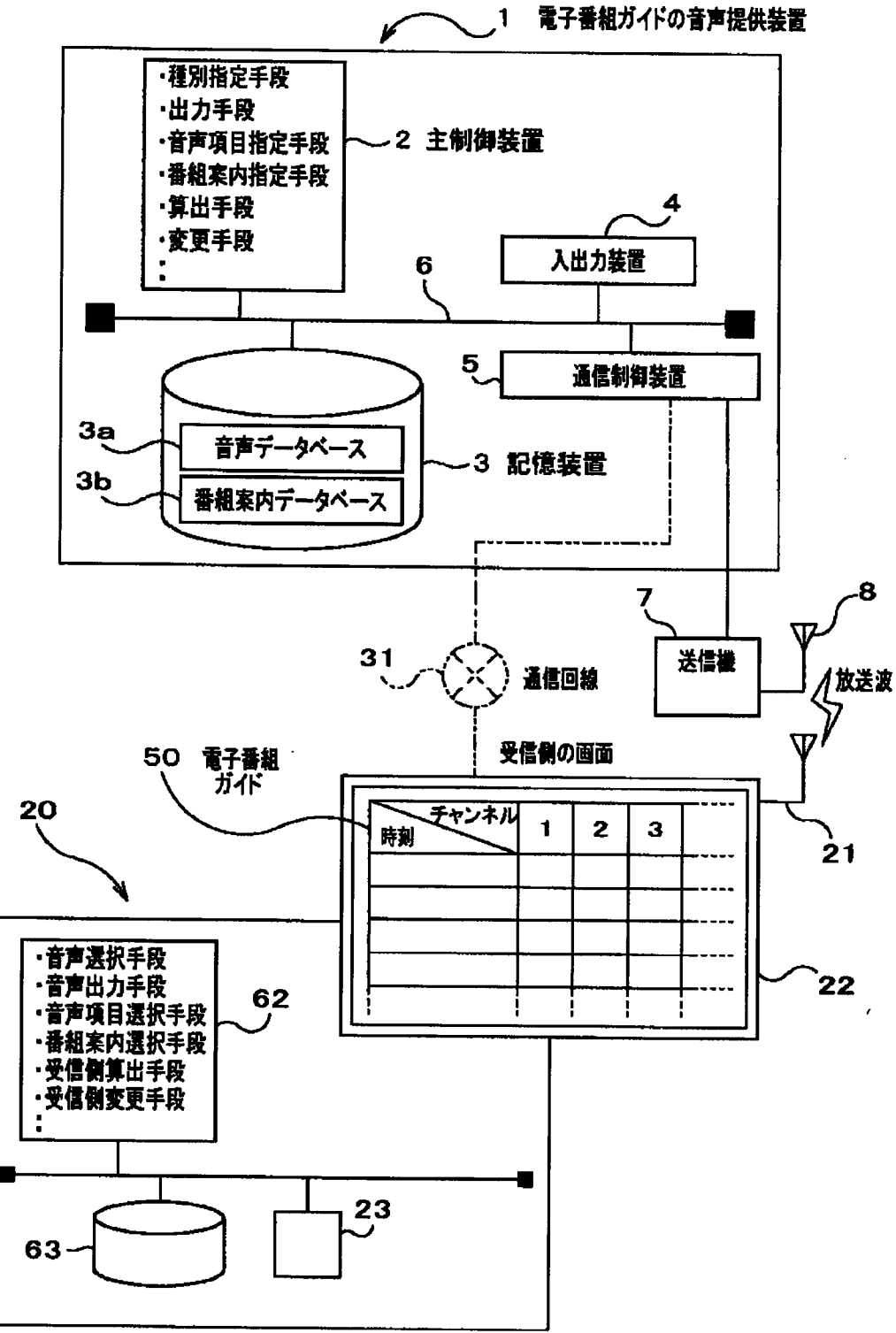
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DRAWINGS

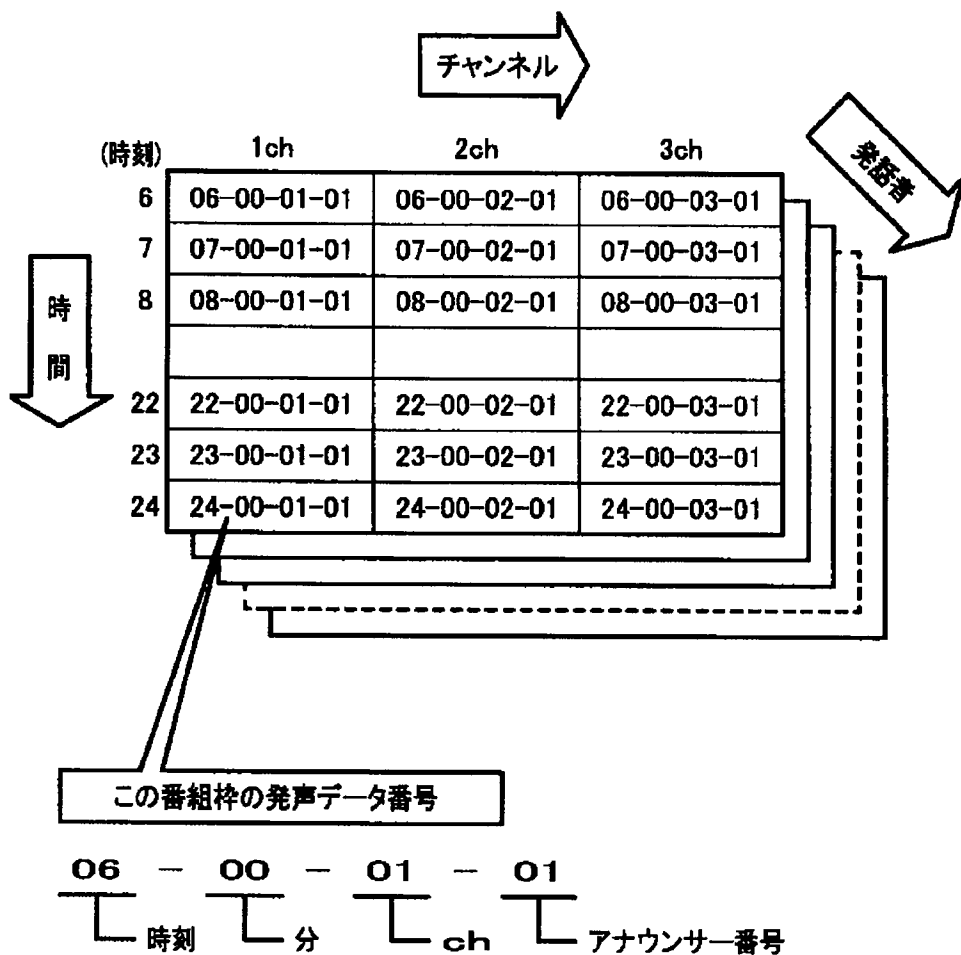
Drawing 2]

ファイル	伝送媒体		放送波	他の通信メディア	放送と通信
	送出 するもの				
音声ファイル そのもの	全データ		ケース1	ケース2	ケース3
	番組名のみ		ケース4	ケース5	ケース6
テキスト ファイル	全データ		ケース7	ケース8	ケース9

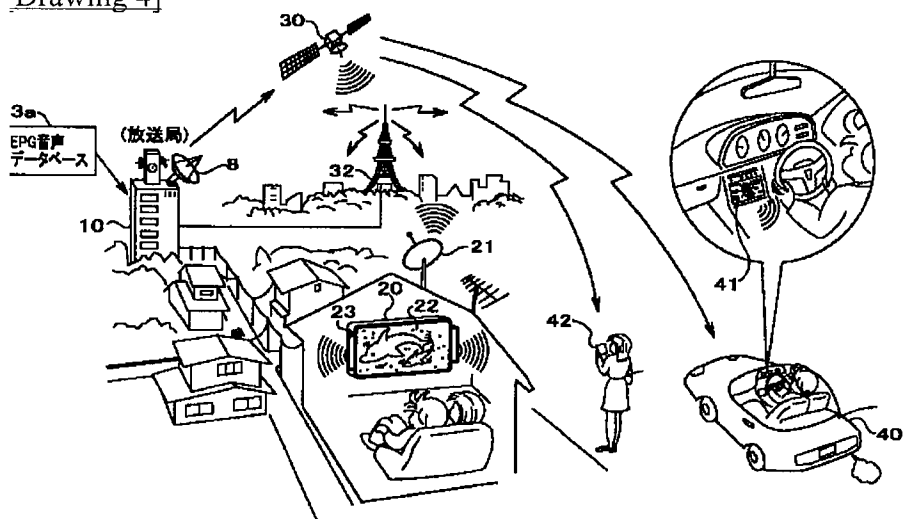
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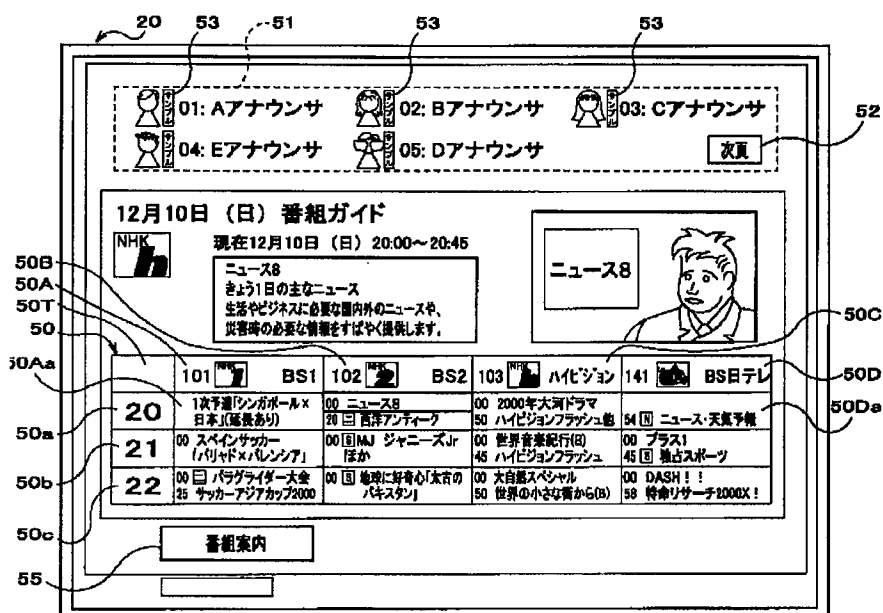
Drawing 3]



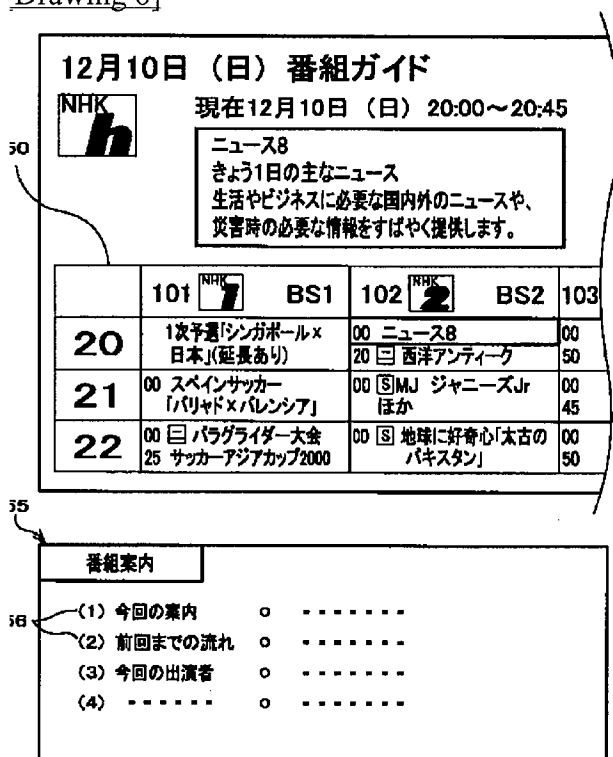
[Drawing 4]



[Drawing 5]



[Drawing 6]



[Translation done.]